ODM EDUCATIONAL GROUP
Changing your Tomorrow

MATTER AND IT'S COMPOSITION

SUBJECT-CHEMISTRY

CHAPTER NO- 1

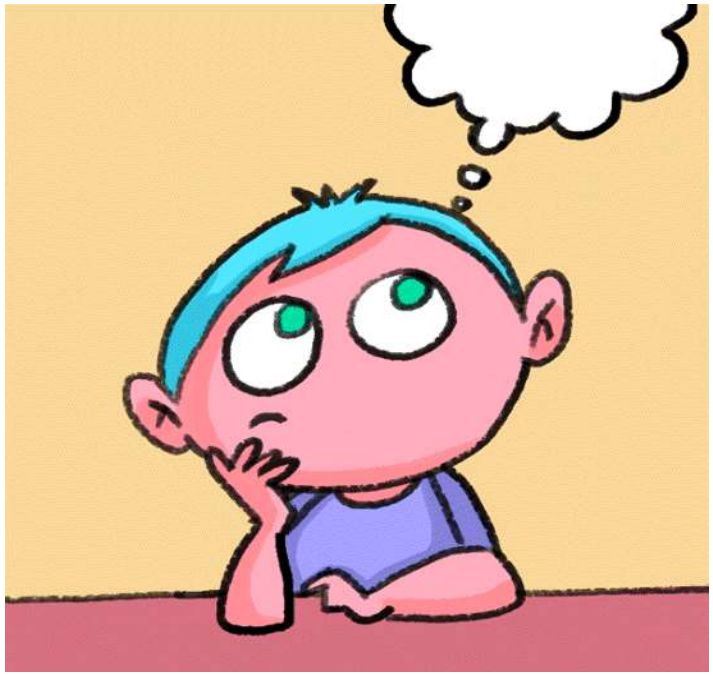
States of matter

PERIOD-4

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

- Students will be able to
- Apprise 3 states of matter
- Explain the different states of matter- solid, liquid and gas
- Sensitize the difference in properties of three states of matter.



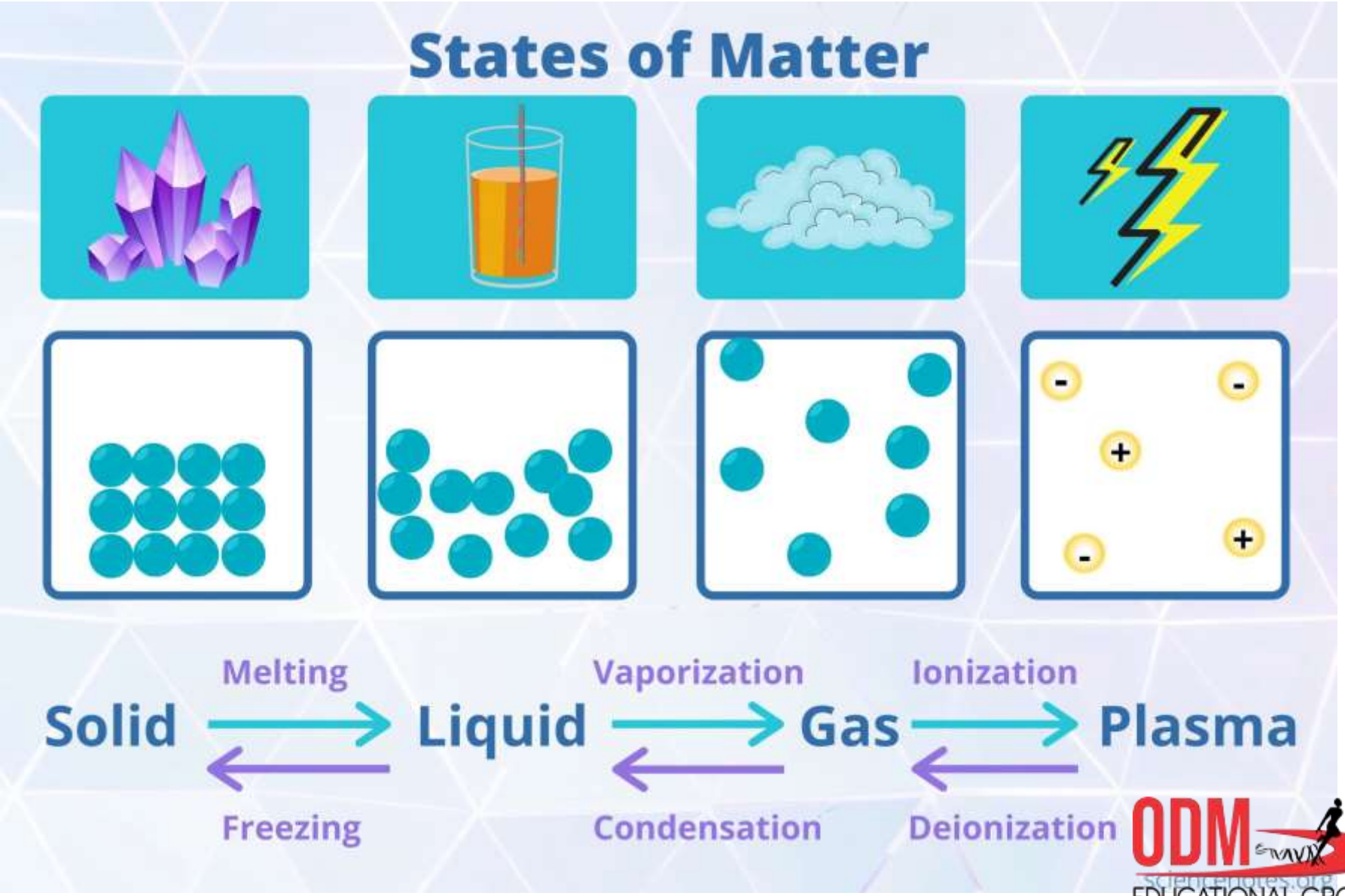
ODM EDUCATIONAL GROUP
Changing your Tomorrow

WARM UP QUESTIONS

- Recapitulation of the previous topic by asking the following questions.
- Explain that particles of matter have space between them by the help of an example.
- How can you explain that particles of matter are always in random motion?
- Give any one example to explain particles of matter attract each other.

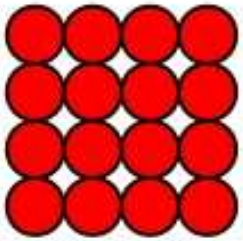
ODM EDUCATIONAL GROUP
Changing your Tomorrow

States of matter



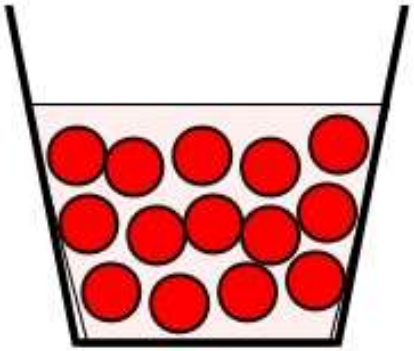
ODM EDUCATIONAL GROUP
Changing your Tomorrow

SOLIDS



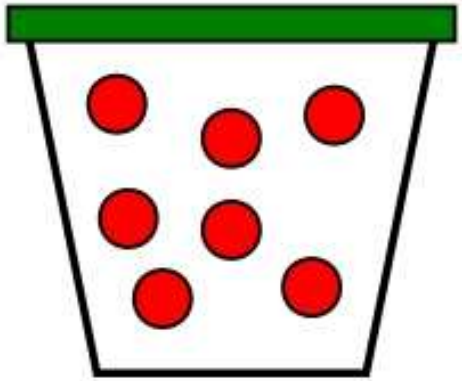
The molecules are held together with strong bonds. They don't move very easily so SOLIDS can keep their own shape and size

LIQUIDS



The molecules have weaker bonds. They can move around slightly so LIQUIDS can flow. They can't keep their shape unless they're in a container.

GASES



The molecules are free to move around. They can spread around an open space quickly and freely. GASES can't keep their shape unless they are kept in a *sealed* container.

ODM EDUCATIONAL GROUP
Changing your Tomorrow

States of matter

https://youtu.be/o2qM4o8e_Vo

ODM EDUCATIONAL GROUP
Changing your Tomorrow

Properties	Solids	Liquids	Gas
1. Volume	Definite volume, as intermolecular forces between the constituent particles are very strong.	Definite volume, as intermolecular forces between the constituent particles are strong.	No definite volume, as intermolecular forces between the constituent particles are weak.
2. Diffusion	Can diffuse into liquids.	Diffusion is higher than solids.	Highly diffusible as particles move randomly at high speed.
3. Compressibility	Negligible	Negligible	High
4. Rigidity or Fluidity	Very rigid and cannot flow	Less rigid and can flow easily.	No rigidity and can flow most easily.
5. Density	High	Moderate	Low
6. Shape	They have a definite shape	They do not have a definite shape.	They do not have a definite shape.
7. Kinetic energy of particles at a given temperature	Least energy	Higher than solids	Maximum energy
8. Interparticle space	Least	Lesser	More than others
9. Interparticle force of attraction	Very strong	Less strong	Weak
10. Intermolecular forces	Strong enough to hold the constituent particles in fixed positions.	Strong enough to hold the constituent particles in aggregation within the bulk but not in fixed positions.	Extremely low, so that the constituent particles are free to move in a continuous random motion.
11. Arrangement of molecules	Packed in definite pattern so they possess a definite	Packed weak in comparison to solids, shape not fixed.	Packed very poorly so they fill the container, no definite shape.

WWW.MAJORDIFFERENCES.COM

Properties of states of matter

- https://youtu.be/sYZ3ETjK8_Y

ODM EDUCATIONAL GROUP
Changing your Tomorrow

Particles of matter attract each other

- https://youtu.be/_-7jrmV5Yrw

ODM EDUCATIONAL GROUP
Changing your Tomorrow

HOME ASSIGNMENT

- Exercise-3,4
- Q. What are the three states of matter?
- Q. How can you differentiate solid liquid and gases based on the following properties?

a. intermolecular space

b. fluidity

c. transparency

d. volume

e. lusture

f. volume

g. effect of pressure

ODM EDUCATIONAL GROUP
Changing your Tomorrow

THANKING YOU

ODM EDUCATIONAL GROUP